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I. Description of New North American Moths

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In the present Article I announce the fact that new species of the Lepidopterous Genera Hemaris, Leucania, Phasiane, Tortrix, Conchylis, are discovered in our Fauna, and that two new genera, Mellilla and Lomanaltes, occur within its limits. It has been objected to such studies as these, that they are of the Closet and not of the Field. Already one has been who made this distinction in his own favor. Still, I think the student at his books and dead specimens is the same whom we meet again, where grasses grow, collecting and observing. So the Field is brought to the House with the Harvest, and can be rightly spoken of from the Closet. It will at least profit others little to be unable properly to tell what one has seen. It is no excuse that we have been out of door when we are called upon to speak. To some the form which the student uses, that he may be well understood, may seem uninteresting, and his statement dry. But from his record is gathered at last a Truth that every one may enjoy. So, often, the seed is dry, but the plant is full of sap. Perhaps it must be dry at first, to be properly green thereafter. This is

the age of objective research, as contrasted with that past in objectless complaint. Let us, then, see what we can while we live. Let us mellow our lives to our Harvest time, that then, like a perfect fruit, we may show in us the soil, the dew, the rain and the sunbeam, and so fall at last good and sweet into the hands of the Husbandman.

Family **SPHINGIDAE.**

Genus **Hemaris,** *Dalman* (1816).

It is Fabricius who, in 1793, arranges under the generic name *Sesia,* a number of moths which have for a common character the more or less pellucid wings. However, the moths thus early brought together belonged to two distinct structural groups—families in the Latreillean sense. In 1807, Fabricius restricts the term *Sesia* to members of the family under present consideration—the Sphingidae, and proposes the term *Aegeria,* for the group afterwards known, it seems to me properly, as Aegeriidae by the English Entomologists. This restriction is overlooked on the continent of Europe, where the term *Sesia* has been generally, and I must believe incorrectly, used as equivalent to Aegeria, *Fabr.* But under the generic term *Sesia,* in the Systema Glossatorum (1807), Fabricius arranges a *number* of species, which are properly the types of distinct genera, according to our present acceptation. Among these species is the European *fuciformis,* for which the term *Sesia* has been retained by English writers, and is used in 1865 by ourselves for congeneric American forms. It is overlooked that Dalman has taken S. fuciformis as the type of his genus Hemaris, and that this name, having priority over the subsequent restrictions of Fabricius' term, must be retained for this type.

I have elsewhere proposed to restrict Cephonodes, *Hübner* (1816), to the Asiatic C. hylas; the type, so far as we can judge, of Hübner's genus; certainly the first species enumerated in the "Verzeichniss" under the name. Following Latreille's restriction, we must regard the European *Sphinx Stellatarum L.,* as the type of Scopoli's genus

Macroglossum. Our nearest known ally to this European genus is, perhaps, Euproserpinus phaeton, *Grote and Robinson*, from California.

In North America we have a number of pellucid winged Sphingidae, which, as a group, differ from our present idea of Hemaris, by their flattened form, appressed squamation, and longer wings. These we have arranged under the genus Haemorrhagia, *G. & R.*, of which our common Sesia thysbe, *Fab.*, is the type. Alexander Agassiz, in his recent superb "Revision of the Echini," speaks of our present knowledge of genera, as limited to convenient headings for the identification of species. The species for which I use the name Hemaris, are black and yellow bodied, more or less fuzzy; they look like Humble-bees. On the other hand, the species of Haemorrhagia are Indian red and olive, with flattened body hairs, and by their form prepare us for the still more compressedly shaped species of the genus Aellopos. The late Mr. Robinson and myself, in our Systematic Catalogue of North American Sphingidae, p. 24, have defined under "Sesia," the structural idea I here retain under the more correct name of Hemaris.

As was the case with Hemorrhagia, in which we discovered that several distinct species existed on the Atlantic Slope, whereas but one, or at the utmost two, had been previously suspected, so I have now to draw attention to the fact that a nearly parallel state of things exists with regard to the species of Hemaris.

The first illustration of a North American species of Hemaris is by Abbot & Smith, in 1797. They illustrate and describe a species from Georgia, under the name of *fuciformis*. Whatever species they intended is comparatively of little moment, since the name they use is the same as that under which the European species was described, and they were wrong in considering the two as identical. Boisduval is the next to figure, in the "Species Général," our Hemaris diffinis (*Macroglossa diffinis*, Boisd.) from the Atlantic District. Without any idea of the existence of cotemporary species, Harris considers, and Clemens agrees, without obvious point, that H. diffinis is the species intended originally by Abbot. Boisduval is probably the originator of this idea, since quite recently, in the Annales de la Société Entomologique de Belgique, this distinguished Author indulges in even wider speculations with regard to the work on the Insects of Georgia, and unnecessarily troubles himself with

discoveries which the American student had already made and recorded.

The next species of Hemaris described is from California. This is Hemaris Thetis (*Macroglossa Thetis*, Boisd.), illustrated by ourselves on Plate 6, Vol. 1 of the Transactions of the American Entomological Society. A third species, Hemaris axillaris (*Sesia axillaris*, Grote and Robinson), is described by ourselves in 1868 from Texas.

As in Haemorrhagia, good specific differences are also to be found in the shape, size and comparative width, of the band on the external margin of the primaries in the species of Hemaris. The inner edge of this band in H. diffinis is very slightly roundedly and evenly exserted or scalloped on the interspaces. This character is shown in Boisduval's figure, with which specimens before me from Massachusetts to Pennsylvania otherwise sufficiently agree, and is decisive of what species is really intended. I do not think that either Clemens or Harris have mistaken Boisduval's and our most common species, so that a redescription is unnecessary. But I here indicate the existence of two new species in our territory, that may be separated from H. diffinis, by the shape and comparative width of the marginal band. We must remember H. diffinis as a species of good size, the apex of the primaries with a red stain on the marginal band, and with the inner edge of this marginal band improminently lunulate, neither dentate, nor perfectly even. The dark scale patch on the internal margin of the hind wings is usually stained with red in H. diffinis.

Hemaris tenuis, *Grote,* Plate 1, fig. 6, primary wing.

♂ ♀.—Pale yellowish and black. The two bluish white lateral abdominal spots evident against the blackish hairs of the basal segments, which latter are dorsally yellow. Anal tuft black, divided by yellow central hairs. Beneath, some sparse yellow hair overlies the usual black abdominal vestiture. Legs black; pectus pale yellowish white; palpi above black, beneath pale yellowish. Wings largely vitreous, with very narrow, dull blackish borders; blackish at base as usual, and partially overlaid with yellowish scales. Costal edging narrow; the band along external margin is even on its inner edge and narrower throughout than in any species hitherto described from the Atlantic District. There is no perceptible red apical shading. The body squamation is rather rough, and in size it is the smallest of our species yet described. The

external margins of the wings are more rounded and full than in any of our other known species of Hemaris.

Expanse, 1.50 inch. *Length of body*, .80 inch.

Through Mr. Strecker I have received specimens from West Farms, N. Y., and Berks County, Pennsylvania.

Hemaris Thetis, *Grote*, Plate 1, fig. 7, primary wing.

Macroglossa Thetis, Boisduval, Ann. Soc. Ent. Fr. t. 3, troisieme Ser. Bull., p. 32, 1855.

Scsia thetis, Grote and Robinson, Trans. Am. Ent. Soc. Vol. 1, Plate 6, 1868.

This species is from California. It is larger than H. tenuis. The marginal band of the primaries is even, black and very narrow. The costal edge is depressed and the external margin of the fore wings is more oblique, uneven and longer than in H. tenuis. There is no apical stain on the marginal band of the primaries. The more robust Californian species may also be distinguished apparently by the details of the abdominal coloration. It is described and illustrated in Number 3 of our Descriptions of North American Lepidoptera, as above cited. Our specimen expands 1.80 inch. A figure of the fore wing is given here for comparison.

Hemaris diffinis, *Grote*, Plate 1, fig. 8, primary wing.

Macroglossa diffinis, Boisduval, Sp. Gen. Plate 15, fig. 2, 1836.

Scsia diffinis, Harris, Silliman's Journal, Vol. 36, p. 308, 1839.

? Sphinx fuciformis, Smith, His. Ga., Vol. 1, p. 85, Plate 43, 1797.

This species occurs in Canada, and at various localities in the New England and Middle States. It may be considered infrequent in the vicinity of Buffalo. Mr. Zesch has, however, taken it as it hovered in day time about blossoms. My artist and my friend, Mr. Henry S. Sprague, gives a figure of the fore wing so that it may be compared with the other species here illustrated. In one example, received from Mr. Strecker, where the lunulation of the external band is hardly perceptible above, the character may be detected on the under surface.

A considerable number of specimens examined by me expand 1.75 to 1.85 inch, and average about an inch in length of body as near as may be.

Hemaris marginalis, *Grote,* Plate 2, fig. 10. ♀.

Thorax above yellowish shading to olivaceous, the squamation becoming deep yellowish over the basal abdominal segments dorsally. Middle abdominal segments black; the two pre-anal deep yellowish. Anal tuft black with central yellowish hairs; beneath, the abdomen is black, the yellowish hairs of the preanal segments extending downwardly at the sides. Legs black; anterior pair with pale scales along the tarsi and tibiae inwardly. Thorax beneath sulphur white. The body seems narrower, more fusiform than in the other species and the squamation more depressed. Wings largely vitreous, ornamented as usual, but with a wider terminal band on the primaries than is possessed by H. diffinis. The inner edge of this marginal band is plainly dentate inwardly on the superior interspaces. There is a reddish apical stain as in H. diffinis.

Expanse, 1.65 to 1.70 inch. *Length of body,* .95 inch.

Both sexes of this species have been obligingly communicated to me from Michigan by Mr. Herman Strecker. This is smaller, but otherwise closely allied to H. axillaris, *Grote,* from Texas.

Hemaris axillaris, *Grote,* Plate 1, fig. 9, primary wing.

Sesia axillaris, Grote and Robinson, Trans. Am. Ent. Soc., Vol. 1, p. 23, 1868.

This species differs from H. marginalis by the much wider and more strongly dentate marginal band of the fore wings, exhibited in the present illustration. It is our most robust species. It is from Texas. On its discovery we expressed our views of the sequence of the species of the genera Hemaris (Sesia), and Haemorrhagia, which should be modified, since the examination of all the new species here described, in so far, that we are now decidedly unwilling to reunite them in a single genus, and disposed to insist on the retention of Haemorrhagia as a distinct structural type. I desire to express my obligations to Mr. Theo. L. Mead for the kind manner in which he has placed my types of this species at my present disposition. They passed into the possession of the Central Park Museum, with the large collections of the late Mr. Coleman T. Robinson and myself, at Mr. Robinson's desire.

Genus **Haemorrhagia**, *Grote and Robinson* (1865).

In the Annals of the Lyceum of Natural History of New York, Vol. VIII., 1867, we gave a synoptical table of the species of this genus, which I here repeat in a more complete shape, adding our recently described Haemorrhagia uniformis (*Sesia uniformis* G. & R.) from the Atlantic District. Mr. Lintner writes me that this is the more usual species about Albany. Mr. Strecker kindly sends me a female specimen from Labrador. This species is of the size of H. thysbe, but may be known at once by the edendate inner edge of the marginal band, inwardly produced at vein 5. We speak of this species on page 26 of our Systematic Catalogue. It is the *ruficaudis* ‡ of Walker, but not of Kirby, to judge from the latter's description, which will not apply to any species of Hemaris or Haemorrhagia known to us. I owe to the kindness of Mr. Lintner, whose entomological labors I highly appreciate, specimens of H. gracilis, *G. & R.*, taken near Albany, N. Y. This is our rarest species and the slightest bodied. In fresh specimens there is a narrow white inner lining above and below to the marginal bands of the wings, which is alike singular and beautiful. It has many distinguishing features, as will appear in the following synoptic table of the species of this genus. The first species known to science allied to Haem. thysbe, and differing by the edentate margin of the fore wings, is Haem. buffaloensis, *G. & R.* In Buffalo, where also we take H. uniformis and H. thysbe, Mr. Reinecke and Mr. Zesch have reared Haem. buffaloensis from the egg and observed it in all its stages. It makes a very slight cocoon on the surface of the ground. The chrysalis has no exterior independent tongue case. In its growth, as well as in the habits of the perfect moth, we see, that Haemorrhagia presents resemblances to the Hesperidae, and we can be sure that its Group outranks the Family. Mr. Lintner has published full observations on the young stages of Haem. buffaloensis in the interesting Reports on the State Cabinet; the species has also occurred near Albany.

I owe to the obliging disposition of Mr. Strecker, of Reading, Penn., an opportunity of examining a single specimen of H. thysbe, from Pennsylvania, in which the pre-anal segments are almost entirely red, with only a few lateral olive colored hairs. I think it

possible, then, that H. fuscicaudis is only a form of H. thysbe; but I have no authentic specimens of the former species for comparison

The following is a table of our species of Haemorrhagia:

GROUP I. (*Chamaesesia.*)

Discal cell of primaries free. Vitreous field of secondaries crossed by five nervules. Sp. 1.

Thorax beneath, with lateral red shades; hind wings beneath with a pale shade at anal angle,..... 1. **Haem. gracilis,** *G. & R.*

GROUP II. (*Haemorrhagia.*)

Discal cell of primaries crossed by a longitudinal bar of scales, appearing as a prolongation of vein 5. Vitreous field of secondaries crossed by six nervules. Sp. 2 to 6.

A. Inner edge of external marginal band of the fore wings not dentate on the interspaces. Sp. 2 to 4.

Size small. (Expanse 1.65 to 1.70 inch)..... 2. **Haem. Buffaloensis,** *G. & R.*
Size moderate. (Expanse 1.80 to 2.20 inch). 3. **Haem. uniformis,** *Grote.*
Size large. (Expanse, ♂, 2.40 inch)..... 4. **Haem. Floridensis,** *G. & R.*

B. Inner edge of external marginal band of the fore wings dentate on the interspaces. Sp. 5 and 6.

Abdomen with the pre-anal segments olivaceous, 5. **Haem. Thysbe,** (*G. & R.*)
Abdomen terminally entirely deep red,..... 6. **Haem. fuscicaudis,** (*Boisd.*)

v. Heinemann, in his "Schmetterlinge Deutschlands und der Schweiz," p. 142, says, that the discal cell of the primaries is crossed by a prolongation of vein 5, in the European Hemaris bombyliformis. On examination I find, that in all our species, as well as in the European, where the cell of the primaries is not free, it is crossed by a line of scales continuous with vein 5, but the vein itself is thrown off as usual; it is not prolonged inwardly, as stated by the German Entomologist.

Family **NOCTUIDAE.**

Leucania Harveyi, *Grote*, Plate 1, fig. 14, primary wing.

♂ ♀.—The fore wings are rather narrow, with straight costal edge and hardly oblique exterior margin. They are pale ochrey, with a gray costal shade, which picks out the nervules. A black dot at the extremity of the cell. The median nervure is striped with white scales which extend partially along the median nervules, that are else marked with gray. At base the white stripe broadens below the nervure and is edged inferiorly by a distinct black line. Medially, below median nervure, the submedian interspace is gray limited below by a second curved dark line. A third dark streak edges the median nervure below, between the origin of second and third nervules. Between the fourth and fifth nervules there is a faint interspaceal streak and cuneiform dark marks precede the gray terminal space, which is cut off obliquely to apex. A fine terminal line; fringes pale. Collar whitish, with a dark bordering line; tegulae with a white streak. Head, thorax and appendages pale, somewhat olivaceous ochrey. Hind wings smoky, blackish, with whitish fringes, without marks. Beneath, pale with powdered dark scales; nervules dark. Sometimes the median nervure on the primaries is darker shaded above on the cell, and the subterminal marks are variably guttate and distinct.

Expanse, 1.20 to 1.30 inch. *Habitat*, Buffalo, N. Y., etc.

A common species in the Eastern and Middle States. It is probably described by Guenée as L. albilinea, *Hübner*. A reference to Hübner's original illustration, Zutraege, figs. 337 to 338, of a species with uneven costal edge, pale apical shade and produced apices, from Buenos Ayres, gives abundant reason to reject Guenée's determination, while the assumption that Hübner is mistaken in his locality, seems gratuitous. Guenée himself doubted his determination of our species, for, referring to some discrepancies between Hübner's figure and the material before him from the United States, he asks: Serait-ce une espèce distincte?

To Dr. Leon F. Harvey, of Buffalo, who is studying this Family of Moths, and whom I thank for his kind personal interest, I dedicate this species.

Leucania Henrici, *Grote,* Plate 1, fig. 15, primary wing.

The wings are long and wide; primaries with the costal edge nearly straight, slightly arcuated to the depressedly acute apices; external margin oblique; internal angle full and rounded. The fore wings above are marked with longitudinal shades. There are no traces whatever of the ordinary spots or lines. All the veins are picked out by whitish gray scales and the interspaces streaked with olivaceous ochrey. This latter darker shade obtains prominently and broadly from the base of the wing, below median nervure on the submedian interspace centrally, to the external margin, before which it is attenuate, leaving the submedian fold marked by gray scales, and the region along the internal margin of the wing, above and below the internal nervure, gray with scattered darker scales. The interspaces between the second and fourth veins have central gray shades. Again the deep olivaceous ochrey color extends along the discal cell, margining the median nervure superiorly, attenuate at base and widening to external margin on both sides of the fifth vein, which is as usual brought into relief by pale scales. Again the darker shade is more prominently perceivable on the post-apical interspace between veins 7 and 8; a short trigonate shade. A subobsolete series of dots at the base of the white fringes. Hind wings white. Beneath, whitish with costal dustings of darker scales on both wings; a faint terminal row of dark marks. Thorax beneath olivaceous ochrey, as are the legs inwardly; outwardly the tibiae and tarsi are whitish gray and contrast. Antennae rather short and stout, simple, testaceous. Palpi exceeding slightly the front. Head and thorax above gray; abdomen exceeding the hind wings, rather long.

Expanse, 1.50 inch. *Habitat,* New York State.

Both sexes of this species are before me. Its neutral tints are distinct and their contrasts on the primaries strong. It cannot be confounded easily with any of our described species on account of the shape and breadth of the primaries, the simplicity of the markings and the contrast of the tints. In the shape of the wings this species resembles Meliana.

I name the present species after my friend Mr. Henry S. Sprague, to whose talent in drawing the present Article owes much value.

Leucania evanida, *Grote,* Plate 1, fig. 16, primary wing.

♂.—Allied to L. Henrici, but differs by its narrower wings; the primaries have the costal edge straighter; about internal angle the wing is not so full, less roundedly produced; the internal margin is straighter and the wing is less developed below the internal nervure. There is a great similarity be-

tween the species in the ornamentation and color, but everywhere the gray shades of L. Henrici are here obsolete, and the olivaceous tints on the primaries are wanting in L. evanida, in which the interspaceal shadings are simply ochreous. The fore wings are almost entirely pale ochreous, with the whitish veins and shadings less obvious and contrasting. The internal margin is ochreous in the present species while it is gray in L. Henrici. The labial palpi are shorter and do not so prominently exceed the front in L. evanida, which is the slighter of the two and but little exceeds the European L. pallens in size. Our species wants all dots or marks whatever on the primaries above. The fringes are immaculate.

Expanse, 1.45 inch. *Habitat*, Putnam Co., N. Y.

A single specimen has been taken by the late Mr. C. T. Robinson at Brewster's.

Caradrina miranda, *Grote.*

♀.—This is a slight species with narrow, glossy blackish primaries, their costal and internal margins straight. All markings are obliterate and hardly to be discerned. The ordinary lines are divaricate; the subterminal line is obsolete, indicated by very faint pale dots and preceding dashes. An obscure dark dot marks the orbicular; a pale dot on the cross vein preceded by a dark streak, the reniform. The wing and fringes are concolorous and in some lights there is nothing to disturb their unicolorous appearance. Thorax above a little darker; abdomen and under surface of body and the legs a little paler than primaries. Hind wings pellucid whitish, clouded with blackish along the external and costal margins, without discal mark, with an attenuate marginal line. Beneath both pair whitish; the fore wings are largely blackish superiorly and along external margin. The costal region of the hind wings is broadly, evenly and well definedly blackish.

Expanse, .90 to 1.00 inch. *Habitat*, New York State.

This species of which several specimens are contained in the collection of this Society, is pyraliform in appearance, reminding us somewhat of Aglossa. It appears to bear a certain resemblance to the European C. palustris, Herrich-Schaeffer, fig. 292. It resembles also generally, the figures 366 and 367 of the same Author.

Family **GEOMETRIDAE.**

Phasiane mellistrigata, *Grote,* Plate 1, fig. 11. ♀.

Labial palpi convergent, extended beyond the front, the minute third article naked. Antennae scaled, simple. Maxillae moderately stout. Vein 5 of the secondaries absent. Dark steel gray. Wings ample; primaries with straight costal edge, bluntly acuminate apices, external margin slightly rounded. Secondaries full, a very little depressed on external margin opposite the cell. Fore wings bright clean steel gray; a distinct even continued narrow, slightly oblique, bright ochreous transverse anterior line with a light preceding shade, discontinued superiorly. A dark discal streak, above which, on costa, the very indistinct median shade line is more distinctly incepted. A very distinct double bright ochreous transverse posterior line, followed by a distinct black shade and running from internal margin, a little unevenly and outwardly obliquely to vein 7, where it is arrested, connected with the costa by a narrow black line placed inwardly. Subterminal line appearing as a vague festooning outside of the black shade. A very fine terminal line appearing by interspaceal dots. Fringes concolorous. Hind wings a little paler, mottled, deepening in color outwardly, with a distinct median even once angulated dark line, and a fainter subterminal shade. Beneath, paler, mottled; the veins picked out by testaceous scales; the costal edge a little stained; markings improminent. Body concolorous. Hind tibiae with middle and terminal spurs.

Expanse, 1.10 inch. *Habitat,* Buffalo, N. Y.

We have only the female of this species in the collection.

Mellilla, n. g.

The body is narrow and linear; the abdomen as long as the secondaries, the internal angle of which it slightly exceeds. Labial palpi dependent, short, but little exceeding the front. No ocelli. Male antennae bipectinate; the pectinations are obtuse, and provided with setal hair; there are about eighteen pairs on each antennus, and they gradually decrease in length to the tip, where they become obsolete. Maxillae moderate. Wings long. Primaries with straight costal and parallel internal margins; external margin rounded, a little shorter than usual. Veins 3 and 4 thrown off together; 5 independent, equidistant between 4 and 6; 7 and 8 together from the extremity of the long and narrow accessory cell, 7 to external

margin before, 8 to costal margin just within the apex; 9 out of 8; 10 forming the upper limit of the accessory cell, (which is closed by a branchlet towards the base of 8 and 7,) and originating from the upper side of the median nervure; 11 out of 10 on the line of the costal nervure; 12 anastomosing with 10. Hind wings ovate, vein 5 wanting. Fringes short.

A genus of Geometridae allied to Fidonia.

Mellilla chamaechrysaria, *Grote,* Plate 1, fig. 1, ♂.

♂. Anterior wings basally pale brownish ochrey, sprinkled with dark brown scales. The perpendicular median shade is propinquitous to the even transverse exterior line, which limits inwardly the deep brown terminal field of the wing. This latter is deeper shaded along the apical region and with the line, becoming a little paler centrally on external margin. Hind wings deep orange above, without lines. Internal margin with black scales, which mark the inception of the usual transverse lines at anal angle. Beneath the fore wings are orange, with a terminal apical band. Hind wings pale brown, irrorate with dark scales and with a median transverse dark band.

Expanse, .75 inch. *Habitat,* Buffalo, N. Y., etc.

Mr. Charles Linden has taken specimens in this vicinity. I have seen this species singly in other collections of Moths, made at various points in the Atlantic States.

On the Plate, fig. 2 represents the under surface, and fig. 3 the denuded wings enlarged, showing the venation.

Family **PYRALIDAE.**

***Lomanaltes,** n. g.

Ocelli. Eyes naked. Maxillae moderate. Labial palpi elongate, projected straightly forward; second joint as long as the thorax; third joint longer than usual, obliquely porrected, closely scaled. Antennae simple, slender, finely ciliate inwardly. Fore wings elongate, produced apically; costal edge sinuate, uneven, medially depressed; external margin oblique; internal angle rounded and the

* Gr.: λῶμα et ἀναλθής.

margin shorter than usual. Venation like Hypena; primaries 12-veined: 3, 4 and 5 approximate; 4 nearer 5 at base; cell closed; an accessory cell, from the outer extremity of which 7 and 8 are thrown off from one point; 9 out of 8 to costa; 8 to apex; 10 out of the upper edge of the cell opposite the inception of 6. Hind wings moderately full and rounded, 8-veined; 5 arising within 3 and 4, independent, or connected by an aborted feeble veinlet with the median nervure. Hind tibiae with terminal and median spurs.

Lomanaltes laetulus, *Grote,* Plate 1, figs. 12, ♂.

Anterior wings dull olivaceous brown with a light purple cast. The dark color of the wing extends from the base to the outer median line, beyond this latter a very pale shade frosts the subterminal field and extends along costal region broadly to apices. Transverse anterior line even, nearly perpendicular, twice angulated, rusty ochreous with a pale preceding shade. Transverse posterior line similar in appearance, not angulated, even, oblique, followed by a pale shade. The inconspicuous discal dot is formed by raised scales. Subterminal line faint, irregular, indented opposite the cell and again at submedian interspace; the line itself is dark, picked out externally by pale points. Terminally the wing is again dark below the pale apical region; fringes dark. Hind wings fuscous, without markings, touched with whitish at anal angle; fringes darker. Beneath the wings are fuscous; secondaries paler; discal dots perceivable. On the primaries a white dot on the interspace between 7 and 8 and the costal nervules are faintly indicated by pale scales. Head and appendages and thorax concolorous with fore wings; the third palpal joint is tipped with pale scales. Under the glass there is an admixture of pale scales overlying the primaries and body parts. Abdomen slender, with feeble dorsal tufts, no longer than internal margin of secondaries.

Expanse, 1.10 inch. *Habitat,* Philadelphia; Albany, N. Y.—(Lintner.)

This genus is allied to Hypena and Bomolocha. From either it strongly differs in the shape of the primaries: their sinuate costal edge, apical production and oblique and extended external margin. The relative length and position of the third palpal article are peculiar. In the last of three Papers, partly treating of the North American Deltoids, to which the above genus belongs, I have enumerated twenty genera and fifty species as referable to the Group, which I follow the authors of the Wiener Verzeichniss in consider-

ing as belonging to the Pyralidae. The Group appears to me of subfamily value. Figure 13 gives an enlarged view of the extremity of the labial palpus, showing the position of the terminal joint in Lomanaltes.

Family **TORTRICIDAE.**

Tortrix Georgiana, *Grote,* Plate 1, fig. 4, primary wing.

Male antennae not basally constricted; all the nervules separated; costa of the primaries with a basal fold enclosing a hair pencil; vein 2 thrown off at outer two-thirds of the median nervure from the base to origin of vein 3. Hind wings with 3 and 4 thrown off together; also 6 and 7. Fore wings pale ochrey, with five transverse, irregular, nearly equidistant, perpendicular, ferruginous lines crossing the basal two-thirds of the wing; the outer fourth and fifth of these lines are joined on the submedian interspace by a crossing of similar scales. The second from the base divides at costa. On the outer third of the wing similar ferruginous scales form three disconnected angulate figures; two on the costal, one on the internal margin, that at the apex Y-shaped. Light purply shades on the ground color of the wing between the ferruginous markings. Hind wings dark fuscous with pale fringes; anal tuft prominent.

Habitat, Philadelphia (Bunte).

Tortrix Houstonana, *Grote,* Plate 1, fig. 5, primary wing.

No basal antennal constriction; fore wings 12 veined, all the veins separate; without (?) a costal fold. Hind wings slightly truncate; external margin uneven (wellenrandig); veins 3 and 4 thrown off together, short; 5 much removed; 6 and 7 together; 7 curved upwardly to apex. Hind tibiae with double spurs. Palpi thickly scaled, porrect, applied to the front. Fore wings pale ochreous, much taken up with ferruginous transverse irregular lines; between these the irregularly formed interspaces are filled out with different paler shades; at outer third the second and third transverse lines from the external margin are connected medially by a black blotch, and blackish scales are elsewhere intermixed on the lines. There is a plumbeous patch on submedian interspace and a smaller one beneath it on the margin, as well as others obliquely inwardly towards costa not prominent. The paler scales over the middle of the wing are slightly brilliant. Hind wings pale, slightly smoky, with paler fringes longer about anal angle and internal margin. In color this smaller species with rounded primaries resembles the preceding, but the

wing is darker, more blotchy and ferruginous. The longer fringes about anal angle of the hind wings remind one of Teras, to which I was at first disposed to refer both species, but the point of departure of vein 2 on the fore wings and the straightness of the median nervure are opposed to the characters of that genus.

Habitat, Texas (Belfrage).

Conchylis straminoides, *Grote.*

The fore wings widen outwardly, lapping a little at internal angle. Pale soft ochreous, with a median olivaceous band on the fore wings which below appears as a very large and very intensely colored ferruginous spot taking up the inferior half of the band and resting on internal margin. The apical region is powdered with dark scales and the wing terminally shaded downwardly with olivaceous. The costa is also darker dotted at base. Thus there are indications of three darker transverse shades. Fringes pale. Beneath the primaries are dark fuscous, except along internal margin. Above, the hind wings are pale with a light fuscous shade; beneath with a sprinkling of fuscous scales about the costo-apical region. Labial palpi dependent.

Habitat, Buffalo, N. Y.

Resembles C. straminea of Europe and more distantly C. angulatana, *Robinson,* from this State.